## SEQUENCE LISTING

```
<110> KOIZUMI, Takeshi
       NISHIYAMA, Yoko
YAMAMOTO, Satoshi
FUKUYAMA, Masafumi
       FURUHATA, Katsunori
       OONAKA, Kenji
<120> PRIMER AND PROBE FOR DETECTING VIBRIO CHOLERAE OR VIBRIO MIMICUS
       AND DETECTION METHOD USING THE SAME
<130>
       Q88467
       US 10/538,636
<140>
<141>
       2005-06-10
<150>
       PCT/JP03/15889
<151>
       2003-12-11
<150>
       JP 2002-362878
<151>
       2002-12-13
<160>
      64
<170> PatentIn version 3.3
<210>
<211>
       885
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
       Consensus sequence of Vibrio Cholerae and Vibrio mimicus gyrB
<400> 1
gtmtccggyg gtctrcacgg ggtaggtgtg tcggtrgtka aygcsctbtc wgaaaaagtg
                                                                         60
ctrctbacca tytatcgygg yggcaaraty caywcscaaa cttaccatca yggtgtgcca
                                                                        120
caagcaccgt tgkctgtrgt rggtgakacw gagcgtaccg gtactaccgt acgtttctgg
                                                                        180
ccwagygcac aracytttac caatatcgaa ttycattacg acattytggc taaacgyctg
                                                                        240
cgtgagctgt cattcctgaa ytctggcgtg tcgatcaagc tgaysgatga rcgtgaagaa
                                                                        300
gataaraaag accacttyat gtatgaaggk ggtattcaag cgtttgtkac ccacttgaac
                                                                        360
Cgyaayaaaa cgccratcca tgaraaagtm ttccacttya accaagagcg tgaagatggc
                                                                        420
atcagcgtgg aagtggcrat gcagtggaay gatggtttcc aagaaaacat ctactgcttt
                                                                        480
acyaacaaca tyccacagcg tgatggyggt acccayttag cyggtttccg tggtgcrttg
                                                                        540
accogtactt tgaacaacta yatggayaaa gaaggcttct cgaagaaagc scaagcrgca
                                                                        600
acctcgggtg atgatgcgcg tgaaggctta acrgcdgtkg tdtcggtgaa agtrccrgat
                                                                        660
cctaaattct cragccaaac caaagataag ctrgtttctt cggargtraa atccgcrgtt
                                                                        720
gartcagcya tgaatgagaa gctggcrgat ttcctrgcgg aaaacccaag cgaagcgaaa
                                                                       780
aacgtttgtt cgaagattat tgatgcrgcr cghgckcgtg aagcvgcgcg taaagcmcgk
                                                                       840
```

<210> <211> <212> <213>	2 822 DNA Art		uence				
<220> <223>	Con	sensus sequ	ence of Vib	rio cholera	e and vibri	o mimicus rp	OOD
<400>	2	avasstcas	tattaccaaa	cacattanea	****		
						ccaagttcaa	60
						tgaymrkgtt	120
						taacgacatg	180
						sgatctcgck	240
						yggcgacggt	300
						tgagaaattc	360
						tggtcgtgac	420
agtmayo	aag	cwtctgaagc	ktcarrcytr	gtrytggata	tyttccgyga	attccgycta	480
acaccaa	arc	aattygacca	yttggttgaa	actctgcgya	cytcratgga	tcgtgttcgy	540
acccaag	jarc	gyttggtrat	gaaagcvgtr	gttgaagtcg	cgaaratgcc	raagaaatcr	600
ttyatyg	cyc	trtttacagg	caatgaatcg	aatgargart	ggctbgataa	agtvctygct	660
tctgaya	arc	cttaygtasm	raaagtmcgt	gagcaagaag	amgakatycg	ccgytcaaty	720
caraaac	tdc	aratgatcga	rcargagacw	tcactgtctg	ttgarcgyat	caaagacatc	780
agccgtc	gta	tgtcwatcgg	tgargcraaa	gctcgccgtg	cg		822
<211> <212>	3 885 DNA Art	ificial Sequ	uence				
<220> <223>	Cons	sensus seque	ence Vibrio	cholerae gy	/rB		
	3 gyg	gtctgcacgg	ggtaggtgtg	tcggtggtta	acgcgctytc	tgaaaaagtg	60
ctrctya	cca	tytatcgygg	yggcaaratc	caywcscaaa	cttaccatca	tggtgtgcca	120
caagcac	cgt	tggctgtrgt	rggtgakacw	gagcgtaccg	gtactaccgt	acgtttctgg	180
			caatatcgaa				240
			ytctggcgtg				300
			gtatgaaggg				360
			tgagaaagtc				420

```
atcagcgtgg aagtggcrat gcagtggaay gatggtttcc aagaaaacat ctactgcttt
                                                                       480
acyaacaaca tcccacagcg tgatggtggt acccayttag ccggtttccg tggtgcgttg
                                                                       540
acccgtactt tgaacaacta yatggayaaa gaaggcttct cgaagaaagc scaagcggca
                                                                       600
acctcgggtg atgatgcgcg tgaaggctta acggcwgtgg twtcggtgaa agtgccggat
                                                                       660
cctaaattct cragccaaac caaagataag ctggtttctt cggaagtaaa atccgcrgtt
                                                                       720
gartcagcya tgaatgagaa gctggcrgat ttcctagcgg aaaacccaag cgaagcgaaa
                                                                       780
aacgtttgtt cgaagattat tgatgcrgcr cgygckcgtg aagcsgcgcg taaagcccgk
                                                                       840
gaaatgactc gycgtaaagg cgcgytggat cttgcwggct taccc
                                                                       885
<210>
<211>
       822
       DNA
<213>
       Artificial Sequence
<220>
<223>
       Consensus sequence of Vibrio cholerae rpoD
<400> 4
acacgtgaag gtgaaatcga tattgccaag cgcattgaag atggtattaa ccaagttcaa
                                                                       60
agtgcgattg ctgagtatcc tggaaccatc ccttatattc ttgagcagtt tgatcgtgtt
                                                                       120
caggccgaag agctacgtct cactgacctg atttcaggtt tcgttgaycc taacgacatg
                                                                      180
gaaaccgaag cgccaaccgc gactcacatc ggttctgagc tttctgaagc ggatctcgcg
                                                                      240
gatgaagatg atgctgtcgt cgaagatgaa gacgaagatg aagacgaaga tggcgacggt
                                                                      300
gaaagcagcg acagcgaaga agaagtcggt atcgaccctg aactggctcg tgagaaattc
                                                                      360
aatgaactgc gcggyaagtt ccaaaacctg caattagcgg ttaatgaatt tggtcgtgac
                                                                      420
agtcatcaag cttctgaagc gtcagactta gtgytggata tcttccgtga attccgycta
                                                                      480
acaccaaagc aattcgacca cttggttgaa actctgcgca cttcaatgga tcgtgttcgc
                                                                      540
acccaagaac gtttggtrat gaaagcggta gttgaagtcg cgaagatgcc gaagaaatcg
                                                                      600
ttcatcgccc tatttacagg caatgaatcg aatgaagagt ggctggataa agtccttgct
                                                                      660
tctgacaagc cttacgtagc gaaagtccgt gagcaagaag aagagatccg ccgttcaatt
                                                                      720
cagaaactac aaatgatcga gcaagagaca tcactgtctg ttgaacgcat caaagacatc
                                                                      780
agccgtcgta tgtcaatcgg tgaggcraaa gctcgccgtg cg
                                                                      822
<210>
       5
<211>
       885
<212>
      DNA
      Artificial Sequence
<213>
<220>
<223>
      Consensus sequence of Vibrio mimicus gyrB
<400>
      5
```

gtctccggtg	gtctacacgg	ggtaggtgtg	tcggtagtga	atgccctgtc	agaaaaagtg	60
ctgctbacca	tttatcgtgg	tggcaagatt	cacacccaaa	cttaccatca	cggtgtgcca	120
caagcaccgt	tgtctgtrgt	gggtgagact	gagcgtaccg	gtactaccgt	acgtttctgg	180
cctagtgcac	agacttttac	caatatcgaa	ttccattacg	acattctggc	taaacgyctg	240
cgtgagctgt	cattcctgaa	ctctggcgtg	tcgatcaagc	tgacggatga	gcgtgaagaa	300
gataagaaag	accacttyat	gtatgaaggt	ggtattcaag	cgtttgtkac	ccacttgaac	360
cgtaayaaaa	cgccgatcca	tgaaaaagta	ttccacttca	accaagagcg	tgaagatggc	420
atcagcgtgg	aagtggcaat	gcagtggaac	gatggtttcc	aagaaaacat	ctactgcttt	480
accaacaaca	tyccacagcg	tgatggcggt	acccacttag	cyggtttccg	tggtgcrttg	540
acccgtactt	tgaacaacta	catggacaaa	gaaggcttct	cgaagaaagc	scaagcrgca	600
acctcgggtg	atgatgcgcg	tgaaggctta	acrgcrgtkg	tktcggtgaa	agtrccrgat	660
cctaaattct	cragccaaac	caaagataag	ctrgtttctt	cggargtgaa	atccgcggtt	720
gagtcagcca	tgaatgagaa	gctggcggat	ttcctggcgg	aaaacccaag	cgaagcgaaa	780
aacgtttgtt	cgaagattat	tgatgcrgcr	cghgctcgtg	aagcvgcgcg	taaagcacgt	840
gaaatgacyc	gtcgtaaagg	cgcgctagay	ytmgctggtt	tgccw		885
<220> <223> Cons	ificial Sequ		rio mimicus	rpoD		
<400> 6 acacgtgaag	gcgaaatcga	tattgccaag	cgcattgaag	atggtattaa	ccaagttcaa	60
agtgcgattg	ctgagtatcc	tggaaccatc	ccatacattc	ttgaacagtt	tgacaaggtt	120
caggcagaag	aactacgtct	gactgayctg	atttctggtt	tcgttgatcc	taacgacatg	180
gaaaccgaag	cgccaactgc	tactcacatc	ggttcagarc	tctctgaagc	cgatctcgct	240
gatgaagatg	acgaggtcgc	ggaggatgaa	gacgaggatg	aagatgaaga	cggcgacggt	300
gaaagyagcg	acagcgaaga	agaagtgggt	attgaccctg	agctcgctcg	tgagaaattc	360
aatgaactgc	gcggcaagtt	ccaaaacctg	caattagcgg	ttaatgaatt	tggtcgtgac	420
agtaaccaag	catctgaagc	ttcaagcctg	gtactggata	tyttccgcga	attccgccta	480
acaccaaaac	aatttgacca	tttggttgaa	actctgcgta	cctcgatgga	tcgtgttcgt	540
acccaagagc	gyttggtgat	gaaagcvgtg	gttgaagtcg	cgaaaatgcc	aaagaaatca	600
tttattgcyc	trtttacagg	caatgaatcg	aatgargaat	ggctygataa	agtrctcgct	660
tctgataarc	cttatgtaca	aaaagtacgt	gagcaagaag	acgatattcg	ccgctcaatc	720

caaaaa	ctkc agatgatcga	acargagact	tcactgtctg	ttgagcgtat	caaagacatc	780
agccgt	cgta tgtctatcgg	tgaagcgaaa	gctcgccgtg	cg		822
<210> <211> <212> <213>	7 19 DNA Artificial Sequ	ience				
<220> <223>	primer					
	7 csca aacttacca					19
<210> <211> <212> <213>	8 22 DNA Artificial Sequ	ence				
<220> <223>	primer					
<400> gaaytc	8 tggc gtgtcgatca	ag				22
<210> <211> <212> <213>	9 22 DNA Artificial Sequ	ence				
<220> <223>	primer					
	9 gttg ttcaaagtac	<b>9</b> 9				22
<210> <211> <212> <213>	10 25 DNA Artificial Seque	ence				
<220> <223>	primer					
<400> ggattty	10 vacy tccgaagaaa (	cyagc				25
<210> <211> <212> <213>	11 19 DNA Artificial Seque	ence				
<220> <223>	primer					
<400> ygccago	11 ttc tcattcatr					19

<210> <211> <212> <213>	19	
<220> <223>	primer	
<400> cgctto	12 Egctt gggttttcc	19
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> caataa	13 tctt cgaacaaacg t	21
<210> <211> <212> <213>	25	
<220> <223>	primer	
<400> gattgc	14 tgag tatcctggaa ccatc	25
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> gaycct	15 aacg acatggaaac c	21
<210> <211> <212> <213>	16 19 DNA Artificial Sequence	
<220> <223>	primer	
<400> ttcwga	16 rcty tctgaagcs	19
<210> <211> <212>	17 19 DNA	

<213>	Artificial Sequence	
<220> <223>	primer	
<400> agatga	17 aygmk gtcgysgar	19
<210> <211> <212> <213>	18 21 DNA Artificial Sequence	
<220> <223>	primer	
	18 tgaa agyagcgaca g	21
<210> <211> <212> <213>		
<220> <223>	primer	
<400> caatga	19 actg cgcggyaagt t	21
<211> <212>	20 21 DNA Artificial Sequence	
<220> <223>	primer	
<400> gtcacg	20 acca aattcattaa c	21
<210> <211> <212> <213>	21 25 DNA Artificial Sequence	
<220> <223>	primer	
<400> gyytgai	21 ngct tcagawgctt grtka	25
<210> <211> <212> <213>	22	
<220> <223>	primer	

<400> ygargt	22 crcgc agagtttcaa cc	22
<210> <211> <212> <213>	23 19 DNA Artificial Sequence	
<220> <223>	primer	
<400> catyac	23 caar cgytcttgg	19
<210> <211> <212> <213>	24 21 DNA Artificial Sequence	
<220> <223>	primer	
<400> cgytca	24 acag acagtgawgt c	21
<210> <211> <212> <213>	25 19 DNA Artificial Sequence	
<220> <223>	primer	
<400> ggtggt	25 taac gcgctytct	19
<210> <211> <212> <213>	26 23 DNA Artificial Sequence	
<220> <223>	primer	
	26 aacg tgaagaagat aaa	23
<211> <212>		
<220> <223>	primer	
<400> tgagaaa	27 agtc ttccacttt	19

<210> <211> <212> <213>	19	
<220> <223>	primer	
<400> gttaaa	28 gtgg aagactttc	19
<210> <211> <212> <213>	19	
<220> <223>	primer	
<400> gggtaa	29 gccw gcaagatcc	19
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> attctt	30 gagc agtttgatcg t	21
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> caggcc	31 gaag agctacgtct c	21
<210> <211> <212> <213>	32 25 DNA Artificial Sequence	
<220> <223>	primer	
<400> tgagcti	32 ttct gaagcggatc tcgcg	25
<210> <211> <212>	33 21 DNA	

<213>	Artificial Sequence		
<220> <223>	primer		
	33 gatg ctgtcgtcga a		21
<210> <211> <212> <213>	34 18 DNA Artificial Sequence		
<220> <223>	primer		
	34 gaag acgaagat		18
<210> <211> <212> <213>	35 19 DNA Artificial Sequence		
<220> <223>	primer		
<400> cggtat	35 cgac cctgaactg		19
<210> <211> <212> <213>	36 23 DNA Artificial Sequence		
<220> <223>	primer		
<400> catcaa	36 gctt ctgaagcgtc aga		23
<210> <211> <212> <213>	37 21 DNA Artificial Sequence		
<220> <223>	primer		
<400> tcaacca	37 aagt ggtcgaattg c		21
<210> <211> <212> <213>	38 21 DNA Artificial Sequence		
<220> <223>	primer	(10/15)	

	38 Igata tccarcacta a	21
<210> <211> <212> <213>	39 22 DNA Artificial Sequence	
<220> <223>	primer	
<400> gcgaac	39 acga tccattgaag tg	22
<210> <211> <212> <213>	40 22 DNA Artificial Sequence	
<220> <223>	primer	
<400> gatgaa	40 cgat ttcttcggca tc	22
<210> <211> <212> <213>	41 19 DNA Artificial Sequence	
<220> <223>	primer	
<400> aaggac	41 ttta tccagccac	19
<210> <211> <212> <213>	24	
<220> <223>	primer	
<400> ttcttc	42 ttgc tcacggactt tcgc	24
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> ttctgaa	43 attg aacggcggat c	21

<210> <211> <212> <213>	44 22 DNA Artificial Sequence	
<220> <223>	primer	
<400> tgtctc	44 Ettgc tcgatcattt gt	22
<210> <211> <212> <213>	45 19 DNA Artificial Sequence	
<220> <223>	primer	
<400> ggtagt	45 gaat gccctgtca	19
<211> <212>	46 23 DNA Artificial Sequence	
<220> <223>	primer	
<400> cggatg	46 agcg tgaagaagat aag	23
<210> <211> <212> <213>	19	
<220> <223>	primer	
<400> tgaaaa	47 agta ttccacttc	19
<210> <211> <212> <213>	48 19 DNA Artificial Sequence	
<220> <223>	primer	
<400> gttgaag	48 gtgg aatactttt	19
	49 19 DNA	

<213>	Artificial Sequence	
<220> <223>	primer	
<400> wggcaa	49 aacca gckarrtct	19
<210> <211> <212> <213>	22	
<220> <223>	primer	
<400> cattct	50 tgaa cagtttgaca ag	22
<210> <211> <212> <213>	21 DNA	
<220> <223>	primer	
<400> caggca	51 gaag aactacgtct g	21
<210> <211> <212> <213>	25	
<220> <223>	primer	
<400> agarct	52 ctct gaagccgatc tcgct	25
<210> <211> <212> <213>	53 21 DNA Artificial Sequence	
<220> <223>	primer	
<400> gaagat	53 gacg aggtcgcgga g	21
<210> <211> <212> <213>	54 18 DNA Artificial Sequence	
<220> <223>	primer	

<400> gaggat	54 gaag atgaagac	18
<210> <211> <212> <213>	19	
<220> <223>	primer	
	55 tgac cctgagctc	19
<210> <211> <212> <213>	56 24 DNA Artificial Sequence	
<220> <223>	primer	
<400> taacca	56 agca tctgaagctt caag	24
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> tcaacca	57 aaat ggtcaaattg t	21
<210> <211> <212> <213>	21	
<220> <223>	primer	
<400> gcggaar	58 rata tccagtacca g	21
<212>	22	
<220> <223>	primer	
<400> acgaaca	59 Icga tccatcgagg ta	22

<210> <211> <212> <213>	60 22 DNA Artificial Sequence	
<220> <223>	primer	
<400> aataaa	60 utgat ttctttggca tt	22
<210> <211> <212> <213>	DNA	
<220> <223>	primer	
<400> gagyac	61 ttta tcragccat	19
<210> <211> <212> <213>	24	
<220> <223>	primer	
<400> gtcttc	62 ttgc tcacgtactt tttg	24
<210> <211> <212> <213>	19	
<220> <223>	primer	
	63 tgaa gggcgaata	19
<211> <212>	64 22 DNA Artificial Sequence	
<220> <223>	primer	
	64 rtgt tcgatcatct gm	22